Exhibit A

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

JAWBONE INNOVATIONS, LLC, *Plaintiff,*	§	
-v-	§	**6:23-CV-00158-ADA**
META PLATFORMS, INC. D/B/A META, *Defendant.*	§	

CLAIM CONSTRUCTION ORDER AND MEMORANDUM IN SUPPORT THEREOF

Before the Court are the Parties' claim construction briefs: Defendant Meta Platforms, Inc. d/b/a Meta's Opening and Reply briefs (ECF Nos. 63 and 76, respectively) and Plaintiff Jawbone Innovations, LLC's Response and Sur-Reply briefs (ECF Nos. 72 and 78, respectively). The Court provided preliminary constructions for the disputed terms one day before the hearing. The Court held the *Markman* hearing on June 26, 2024. ECF No. 85. During that hearing, the Court informed the Parties of the final constructions for the disputed terms. *Id.* This Order does not alter any of those constructions.

I. DESCRIPTION OF THE ASSERTED PATENTS

Plaintiff asserts U.S. Patent Nos. 8,321,213, 8,326,611, 8,503,691, 10,779,080, and 11,122,357. The '213 and '611 Patents are in the same family. The '691 and '357 Patents are also in their own family. The specifications of all five patents appear to be very similar. *See, e.g.*, Response at 19. All five patents generally relate "to noise suppression" and in particular to "noise suppression systems, devices, and methods for use in acoustic applications." '213 Patent at 1:16–

19, '611 Patent at 1:16–19, '691 Patent at 1:14–17, '080 Patent at 1:21–24, '357 Patent at 1:23–26.

The '213 and '611 patents are directed to acoustic voice activity detection ("AVAD") systems and noise suppression. '213 Patent at Abstract, 1:16–19. The patents describe that the "AVAD methods and systems, including corresponding algorithms or programs, use microphones to generate virtual directional microphones which have very similar noise responses and very dissimilar speech responses." *Id.* at Abstract.

The '691, '080, and '357 patents are directed to dual omnidirectional microphone array ("DOMA") noise suppression systems. '691 Patent at Abstract. The patents describe that "[c]ompared to conventional arrays and algorithms, which seek to reduce noise by nulling out noise sources, the array of an embodiment is used to form two distinct virtual directional microphones which are configured to have very similar noise responses and very dissimilar speech responses." *Id.*

II. LEGAL STANDARD

A. General principles

The general rule is that claim terms are generally given their plain-and-ordinary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014), *vacated on other grounds*, 575 U.S. 959, 959 (2015) ("There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.") (internal quotation omitted). The plain-and-ordinary meaning of a term is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1313.

The "only two exceptions to [the] general rule" that claim terms are construed according to their plain-and-ordinary meaning are when the patentee (1) acts as his/her own lexicographer or (2) disavows the full scope of the claim term either in the specification or during prosecution. *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The Federal Circuit has counseled that "[t]he standards for finding lexicography and disavowal are exacting." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). To act as his/her own lexicographer, the patentee must "clearly set forth a definition of the disputed claim term" and "'clearly express an intent' to [define] the term." *Thorner,* 669 F.3d at 1365.

"Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, 415 F.3d at 1317. "[D]istinguishing the claimed invention over the prior art, an applicant is indicating what a claim does not cover." *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1379 (Fed. Cir. 1998). The doctrine of prosecution disclaimer precludes a patentee from recapturing a specific meaning that was previously disclaimed during prosecution. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Id.* at 1325–26. Accordingly, when "an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

A construction of "plain and ordinary meaning" may be inadequate when a term has more than one "ordinary" meaning or when reliance on a term's "ordinary" meaning does not resolve the parties' dispute. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co*., 521 F.3d 1351, 1361

(Fed. Cir. 2008). In that case, the Court must describe what the plain-and-ordinary meaning is. *Id.*

"Although the specification may aid the court in interpreting the meaning of disputed claim language . . ., particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988). "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)). Technical dictionaries may be helpful, but they may also provide definitions that are too broad or not indicative of how the term is used in the patent. *Id.* at 1318. Expert testimony may also be helpful, but an expert's conclusory or unsupported assertions as to the meaning of a term are not. *Id.*

B. Indefiniteness

"[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as

indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application was filed. *Id.* at 911.

In the context of a claim governed by § 112, ¶ 6, the claim is indefinite if the claim fails to disclose adequate corresponding structure to perform the claimed functions. *Williamson*, 792 F.3d at 1351–52. The disclosure is inadequate when one of ordinary skill in the art "would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim." *Id.* at 1352. Computer-implemented means-plus-function claims are indefinite unless the specification discloses an algorithm to perform the function associated with the limitation. *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1319 (Fed. Cir. 2012).

III. LEGAL ANALYSIS

A. Term #1A: "approximately similar [responses to noise]" Term #1B: "approximately, dissimilar [responses to speech]" / "approximately dissimilar [responses to speech]"

Term	Plaintiff's Proposed Construction	Defendant's Proposed Construction
#1A: "approximately similar [responses to noise]" U.S. Patent No. 8,321,213, Claims 2, 37; U.S. Patent No. 8,326,611, Claims 3, 30 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to noise whose ratio has an absolute value of less than 10 dB"	Indefinite
#1B: "approximately, dissimilar [responses to speech]" / "approximately dissimilar [responses to speech]" U.S. Patent No. 8,321,213, Claims 2, 38; U.S. Patent No. 8,326,611, Claims 4, 30 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to speech whose ratio has an absolute value of 10 dB or more"	Indefinite

The Parties' Positions:

Defendant contends that the Court previously determined that these terms are indefinite. Opening at 4 (citing Opening, Ex. 1 at 3–4). In particular, Defendant contends that the Court previously determined that the term consists of two terms of degree and that the specifications did not provide objective boundaries. *Id.* (citing Opening, Ex. 3 at 50:5–7, 32:4–12).

Defendant contends that Plaintiff's shifting proposals confirms these terms are indefinite. Opening at 5. More specifically, Defendant contends that Plaintiff changed its proposed

construction from (1) plain and ordinary meaning; no construction necessary to (2) plain and ordinary meaning or "the responses to noise between two microphones deviate by no more than 10 to 15 percent" to (3) plain and ordinary meaning; no construction necessary; alternatively, "responses to noise whose ratio has an absolute value of less than 10 dB." *Id.* at 5. Defendant contends that "when converted to a percentage value, 10 dB corresponds to a 1000% deviation, which is orders of magnitude larger than Jawbone's previous proposal of 10-15%." *Id.* at 6 (citing Opening, Ex. 5 (Reader Decl.) at ¶ 41). Furthermore, with respect to "approximately dissimilar," Defendant contends that Plaintiff's proposed construction broadens the claim scope to include both positive and negative numbers, and is unsupported anywhere in the patents. *Id.* (citing Opening, Ex. 5 (Reader Decl.) at ¶¶ 42–45).

Defendant contends that "shifting approach to claim construction demonstrates that the scope of these terms are not reasonably certain" and that the "Court should therefore reject [Plaintiff's] third (inconsistent) attempt to construe these terms." *Id.* at 6–7.

Defendant contends that these terms are a double term of degree and the patents provide no objective standard or boundaries for these terms, nor were any objective standards otherwise known to a POSITA. *Id.* at 7–8. More specifically, Defendant contends that there is no intrinsic evidence that "supplies an objective standard to permit a person of ordinary skill in the art to determine, with reasonable certainty, whether the recited first and second virtual microphones have 'approximately similar' responses to noise or 'approximately dissimilar' responses to speech." *Id.* at 8. Defendant contends, for example, that the specification does not provide guidance as to "[h]ow similar [or dissimilar] must the responses to noise be in order to satisfy the "approximately similar [or dissimilar]" limitations?" *Id.*

Defendant contends that, by contrast, the patents use "very similar" and "very dissimilar" instead of "approximately similar" and "approximately dissimilar." *Id.* at 9–10 (citing '213 Patent at 3:57–62, 4:23–25, 5:35–37, 8:61–62, 17:49–51, 24:63–65). Defendant contends that neither the "specification nor the prosecution history provides a basis for making such a distinction." *Id.* at 10 (citing Opening, Ex. 5 at ¶¶ 39–40).

Defendant contends that "there is nothing in the specification tying a 10 dB ratio to noise responses being 'approximately similar' or speech responses being 'approximately dissimilar.'" *Id.* at 10–11. Defendant contends that:

> Here, the specification's description of a 10 dB ratio is a metric "enough for good performance." But the term "good performance" is not in dispute. Nowhere does the specification tie a 10 dB ratio to the terms "approximately similar" or "approximately dissimilar." The patents are completely silent as to any standard for measuring these terms of double degree, and never associate any objective boundary, let alone 10 dB, with "approximately similar" or "approximately dissimilar" responses.

Id. at 11.

Defendant contends that "[v]arious dictionary definitions further confirm" that "approximately," "similar," and "dissimilar" are "imprecise word[s] of degree." *Id.* at 11–12 (citing Opening, Ex. 5 at ¶ 46; various dictionaries).

In its response, Plaintiff initially contends that "the term 'approximately' does not render a claim invalid" and that "'similar' and 'dissimilar' are generally not terms of degree or approximation." Response at 6 (citing cases). Plaintiff contends that "approximately [similar / dissimilar]" are not two terms of degree, but rather that this "formulation" is "ubiquitous in patent claims." *Id.* at 6–7 (citing *Andrew Corp. v. Gabriel Elecs., Inc.*, 847 F.2d 819, 821 (Fed. Cir. 1988) (noting that "closely approximate" and "close proximity" were not indefinite)).

"approximately dissimilar [responses to speech]"

Plaintiff contends that no construction is necessary for these terms and "[w]hether two particular responses are approximately similar or dissimilar is properly a question of fact that can be resolved by the jury." *Id.* at 8.

Plaintiff contends that the Court should construe these terms in view of their functions. *Id.* (quoting *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1370 (Fed. Cir. 2008) ("[W]e construe 'about 30 μm' to accomplish the function of the low-end limit on particle size described in the specification.")).

Plaintiff contends that the specification describe that the "virtual microphones are configured such that V_2 has minimal response to speech, while V_1 responds to speech." *Id.* at 9 (citing '213 Patent at 4:22–26). Plaintiff contends that "if the noise responses are sufficiently similar and speech responses sufficiently dissimilar, the noise can be subtracted from the speech microphone's input signal in later processing, thus resulting in cleaned and denoised speech." *Id.* (citing '213 Patent at 18:36–20:11; ECF No. 70-1 (Sayeed Decl.) at ¶ 103).

Plaintiff contends that "both voice detection and denoising require the same separation of noise and speech signals, facilitated by the similar and dissimilar noise and speech responses, respectively. By separating the signals, the system can make an accurate comparison between them[.]" *Id.* (citing '213 Patent at 4:26–31; 5:16–52; 6:54–59). Plaintiff contends that "separating the signals in the same fashion allows for proper denoising without devoicing." *Id.* Plaintiff contends that, based on that, a POSITA would "understand that the specification's description of adequate performance in signal separation applies to both voice detection and denoising." *Id.*

Plaintiff contends that the '213 Patent "explicitly states that the ratio of the V_1 and V_2 responses for speech must be 'above approximately 10 dB—enough for good performance[,]'"

and that "10 dB here is a lower bound." *Id.* at 10 (citing '213 Patent at 26:58–60; ECF No. 72-1 (Sayeed Decl.) at ¶¶ 69–70). Plaintiff contends that "[i]n other words, the specification teaches, and a POSITA would recognize, that for the limitations to accomplish their function of providing a clear speech signal for voice detection and from which noise can be subtracted, the ratio of the V_1 and V_2 speech responses must be at least 10dB." *Id.* (citing ECF No. 72-1 (Sayeed Decl.) at ¶¶ 69–71). Plaintiff contends that these limitations should be construed to "encompass structures which 'accomplish the function of the [limitation] described in the specification.'" *Id.* (citing *Cohesive Techs.*, 543 F.3d at 1370).

With respect to Defendant's argument that Plaintiff's proposed construction broadens it previous proposal by now including negative numbers, Plaintiff contends that Defendant's argument "betrays a profound misunderstanding of mathematics." *Id.* More specifically, Plaintiff contends that the patent "explains that the ratio of V_1 over V_2 must be at least 10 dB" and that a POSITA would know "that the ***same quantities***, if instead formulated as V_2/V_1, would result in a ratio of negative 10 dB." *Id.* at 10–11 (citing . '213 Patent at 26:58–60). Plaintiff contends that its "rephrased construction has the same scope of its previous construction but merely prevents future gamesmanship based on the semantic ordering of the responses to speech." *Id.* at 11 (citing ECF No. 72-1 (Sayeed Decl.) at ¶ 78).

With respect to Defendant's argument that the specification does not tie the 10 dB ratio to either "approximately similar" or "approximately dissimilar," Plaintiff contends that the specification "explains that 'good performance' is the minimal level of performance needed to achieve the eventual denoising." *Id.* (citing '213 Patent at 25:65–67). Plaintiff contends that, based on that, a POSITA would "know that to accomplish the 'approximately dissimilar' limitations' functions, the noise responses must be dissimilar enough (i.e., at least 10 dB) to

provide good performance." *Id.* (citing ECF No. 72-1 (Sayeed Decl.) at ¶¶ 67–70). Plaintiff contends that, by contrast, Defendant's expert "does not address what a POSITA would understand—he merely opines that there is no ***express*** definition of 'approximately dissimilar.'" *Id.* (citing Opening, Ex. 5 (Reader Decl.) at ¶ 45). Plaintiff contends that Defendant's failure to analyze what a POSITA would understand is fatal to its argument. *Id.* (quoting *Nautilus*, 572 U.S. at 911 ("[T]he definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application . . . .")).

With respect to Defendant's dictionary definitions, Plaintiff contends that because the specification is clear, those dictionary definitions are irrelevant. *Id.* at 12 (citing *Grace Instrument Indus., LLC v. Chandler Instruments Co.*, 57 F.4th 1001, 1010 (Fed. Cir. 2023)).

"approximately similar [responses to noise]"

Plaintiff contends that because the specification "does not state or imply that any response could be ***neither*** approximately similar nor dissimilar," a POSITA would "understand that responses that are approximately ***similar*** are those that are ***not*** approximately dissimilar, *i.e.*, those whose ratio is less than 10 dB." *Id.* at 12 (citing ECF No. 72-1 (Sayeed Decl.) at ¶ 81) (emphases in Plaintiff's brief).

Plaintiff contends that, based on the specification description of noise responses for optimal and non-optimal configurations, and some mathematical derivation, the ratio of the noise responses for virtual microphones V_1 and V_2, *i.e.*, $V_{1N}(z)$ and $V_{2N}(z)$, respectively, is as follows:

$$\frac{V_{1N}(z)}{V_{2N}(z)} = \frac{(1 - B_1\beta_T)}{(1 - B_2\beta_T)}$$

Id. at 14 (citing ECF No. 72-1 (Syeed Decl.) at ¶¶ 88–89). Plaintiff contends that the specification "explains that β should equal 0.8, while B values may fall in the range 0.8<B<1.1 while still maintaining good performance." *Id.* (citing '213 Patent at 26:39–64, 23:54–25:42; ECF No. 72-1

(Sayeed Decl.) at ¶ 90)). Plaintiff contends that the maximum ratio occurs when "B_1 is set to .8 and B_2 is set to 1.1 (or vice versa)," which "[e]xpressed in decibels, the ratio is ±9.54, or slightly less than 10 dB." *Id.* at 14–15 (citing ECF No. 72-1 (Sayeed Decl.) at ¶¶ 93, 94). Plaintiff contends that

> Accordingly, a POSITA armed with: i) the knowledge that speech responses are approximately dissimilar when the ratios of the responses are at least 10dB, ii) the functions of the limitation described above, and iii) the specification's description of the acceptable similarity of noise responses, would understand that the approximately similar limitations function when the ratio of the noise responses is less than 10 dB.

Id. at 15 (citing ECF No. 72-1 (Sayeed Decl.) at ¶¶ 96-97; *Cohesive Techs.*, 543 F.3d at 1370 (construing approximate limitation "to accomplish the function of the [limitation] described in the specification")).

Plaintiff's prior constructions

Plaintiff contends that its current proposed construction of 10 dB is consistent with its prior proposed construction of errors of 10–15%. *Id.* at 16. More specifically, Plaintiff contends that "[t]he patent applies that same 10-15% error to the equations setting out V_1 and V_2, in the form of B_1 and B_2 which can vary from 0.8 to 1.1, a total of 30%--the equivalent of a plus or minus 10-15% error in the B values." *Id.* (citing '213 Patent at 26:39–64; ECF No. 72-1 (Sayeed Decl.) at ¶ 90).

In its reply, Defendant contends that "similar" is "highly subjective and, on its face, provides little guidance to one of skill in the art." Reply at 2–3 (citing *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014); Reply, Ex. G (Supp. Reader Decl.) at ¶ 10)). Defendant also contends that here is no case finding that terms of approximation are *per se* definite. Reply at 3.

Defendant contends that this Court "has previously stated, the terms at issue recite two words of degree, modifying each other, and require construction." *Id.* at 5 (citing Opening, Ex. 3 at 49:5–7, 31:4–22).

Defendant contends that it is improper to have jury "resolve the question of '[w]hether two particular responses are approximately similar or dissimilar.'" *Id.* at 6 (citing *O2 Micro*, 521 F.3d at 1361 (Fed. Cir. 2008), *Olaf Soot Design, LLC v. Daktronics, Inc.*, 839 F. App'x 505, 509 (Fed. Cir. 2021)).

Defendant contends that Plaintiff's reliance on "[w]hen $0.8<B<1.1$, the V_1/V_2 ratio is above approximately 10 dB—enough for good performance," from the specification is misplaced. *Id.* at 5 (citing Response at 9–10; '213 Patent at 26:58–60). More specifically, Defendant contends that Plaintiff "admits, this portion of the patents does not describe 10 dB as a standard for measuring whether the virtual microphone responses are 'similar' or 'dissimilar,' let alone 'approximately'" so." *Id.*

Defendant contends that "the 10 dB teaching is for 'good performance,' but the term 'good performance' does not appear anywhere in the claims, and is unrelated to determining similarity." *Id.* at 7. Defendant contends that " nowhere do the patents associate a 10 dB ratio to mean that the responses are 'approximately similar' or 'approximately dissimilar.'" *Id.* at 8 (citing cases).

Defendant contends that the patents "specifically use different language to describe different levels of performance." *Id.* at 7 (citing '213 Patent at 20:23–26, 27:21–23 ("adequate performance"); 23:52–53 ("nominal performance"); 28:18–20 ("ultimate performance"); and 20:8–37, 10:1–2, 27:67–28:1, 28:15–17, 29:65–30:3 ("a well-performing system," "perform well," "excellent noise suppression performance," "optimal performance"). Defendant contends that, by contrast, "where the patents do describe system performance together with the responses, they

specifically avoid describing the responses as 'approximately similar' and 'approximately dissimilar[,]'" rather, the patents describe that the system "performs well," the responses are "very different" or "much less similar." *Id.* at 7 (citing '213 Patent at 29:59–30:3 (stating "the system still performs well" when "***very different*** speech responses remain" and "the noise responses are ***much less similar***, so denoising will not be as effective"); 29:40-43 (stating that the "formulations for V1 and V2 can be ***varied*** and still result in good performance of the system as a whole") (emphases in Defendant's brief); Reply, Ex. G (Supp. Reader Decl.) at ¶¶ 12–13).

Defendant contends that there is no evidence that "approximately similar" noise responses means less than 10 dB. *Id.* at 8. More specifically, Defendant contends that the "connection between the disputed terms and the 10 dB teaching is even more attenuated for the ***noise*** terms, since the 10 dB teaching relates only to ***speech***. The 10 dB teaching in the patents is for a ***speech*** V1/V2 ratio of approximately 10 dB or more." *Id.* (citing Reply, Ex. G (Supp. Reader Decl.) at ¶ 14) (emphases in Defendant's brief).

Defendant further contends that "acknowledges that the 10 dB teaching is only a measurement for the ***difference*** between speech responses, not a measurement for how similar two ***noise*** responses must be to meet 'approximately ***similar***.'" *Id.* at 9 (emphases in Defendant's brief). Defendant contends that "[i]n short, even applying the 10 dB teaching to the claims, it only measures ***difference*** between ***speech*** responses, and the POSITA would be unable to differentiate between two ***noise*** responses that are 'approximately ***similar***' versus noise responses that are not 'approximately similar.'" *Id.* (citing *GE Lighting Sols., LLC v. Lights of Am. Inc.*, 663 F. App'x 938, 940 (Fed. Cir. 2016), Reply, Ex. G (Supp. Reader Decl.) at ¶ 14) (emphases in Defendant's brief).

With respect to Plaintiff's argument that a response that is not "approximately dissimilar" must be "approximately similar," Defendant contends that Plaintiff's argument "fail to account for the possibility that responses can be neither 'approximately dissimilar' nor 'approximately similar,' or the ranges could overlap." *Id.* (Reply, Ex. G (Supp. Reader Decl.) at ¶ 10).

With respect to Plaintiff's mathematical derivation, Defendant contends that Plaintiff's "derivation is full of mathematical assumptions and logical leaps, none of which the POSITA would have understood to apply." *Id.* at 9. Defendant contends that, for example, Plaintiff improperly combines embodiments. *Id.* at 9–10. Defendant contends that Plaintiff "further assumes that noise is only taken 'in the forward direction', despite its representations to the PTAB that noise comes from different directions." *Id.* at 10 (citing Reply, Ex. A at 13–14; Ex. B at ¶ 45; Ex. C at 16–17; Ex. D at ¶ 44; Ex. E at 16–17; Ex. F at ¶ 44). Defendant contends that Plaintiff relies on circular logic to as "the patents' teaching for 10 dB was used to identify the suitable range of values for B, and Jawbone now uses the same range for B to arrive at the same 10 dB value." *Id.*

Defendant contends that Plaintiff "takes the position in the PTAB that noise responses have different directions. But here, [Plaintiff] does not describe how to measure similarity of noise responses for different directions." *Id.*

Defendant contends that a POSITA would "not have understood that subtracting noise responses that are nearly 10 dB apart results in denoising, as [Plaintiff] contends." *Id.* at 11 (citing Reply, Ex. G (Supp. Reader Decl.) at ¶ 22).

Defendant contends that the claims confirm that 10 dB relates to another aspect of the alleged invention. *Id.* More specifically, Defendant contends that "the patents' 10 dB teaching ('V1/V2 ratio is above approximately 10 dB') is tied to the claimed 'energy ratio' being greater

than a threshold value,' not the terms in dispute." *Id.* Based on that, Defendant contends that "the patents' 10 dB teachings cannot also provide a measure for the disputed terms." *Id.* at 11-12 (citing cases).

Defendant contends that Plaintiff's proposed construction is inconsistent with its prior construction. *Id.* at 12. More specifically, Defendant contends that Plaintiff "asserts that applying the '10-15% error to the equations' in the patents means there is 'a total of 30%' error. But even if its previous proposal were 30%, that is nowhere close to Jawbone's current proposal of 1000%." *Id.* (internal citations omitted). Defendant further contends that contends that Plaintiff's proposed construction now also includes negative values. *Id.* (citing Opening, Ex. 5 (Reader Decl.) at ¶ 41).

In its sur-reply, Plaintiff contends that when evaluating a term of degree, the Court must consider the function and purpose of the relevant limitation. Sur-Reply at 2.

"approximately dissimilar [responses to speech]"

Plaintiff contends that "the patent sets out a specific definition of how dissimilar the speech responses must be for good performance[.]" *Id.* at 4 (citing '213 Patent at 25:54–60, Figure 37). Plaintiff contends that this passage and figure "are clearly directed to ***speech*** responses and their dissimilarity, and explicitly set out that the ratio must be above 10 dB for good performance. The specifications further define good performance as 'sufficient denoising and minimal devoicing.'" *Id.* at 5 (emphasis in Plaintiff's brief).

With respect to Defendant's argument that the patents "use different language to describe different levels of performance," Plaintiff contends that "none of its examples are relevant to the claims or have anything to do with the noise or speech responses." *Id.* at 5–6.

With respect to Defendant's argument that the patents that the system "performs well" and the responses are "very different" or "much less similar," Plaintiff contends that "[t]here is nothing

in these passages contrary to Jawbone's construction; they merely state the consistent theme of the specification that system performance increases as the speech responses grow more dissimilar and the noise responses grow more similar." *Id.* at 6.

Plaintiff contends that Defendant improperly asserts that the term is indefinite if the claim language does not use the same language as the specification. *Id.* at 6–7 (citing cases). Plaintiff contends that, by contrast, the "claims and specifications here provide the necessary guidance for a POSITA to determine the claim's scope with reasonable certainty." *Id.* at 7.

"approximately similar [responses to noise]"

Plaintiff contends that Defendant incorrectly asserts that "noise is only taken 'in the forward direction[,]'" as the patent specification describes that "noise ***also*** comes from the forward direction and must be canceled, unlike prior art systems." Sur-Reply at 8 (quoting '213 Patent at 23:67–24:7 ("Note that the speech null at zero degrees is not present for noise in the far field. . . . This insures that noise in front of the user will be detected so that it can be removed.")) (emphasis in Plaintiff's brief).

With respect to Defendant's assertion that Plaintiff's argument improperly combined embodiments, Plaintiff contends that Defendant "misunderstands" Plaintiff's argument. *Id.* at 9. More specifically, Plaintiff contends that "[t]he patent itself starts with the optimal system and then explains that the non-optimal system can be modeled by inserting B_1 and B_2 into the optimal equations." *Id.* at 9 (citing '213 Patent at 29:45–52).

With respect to Defendant's arguments about Plaintiff's mathematical derivation, Plaintiff contends that Defendant "incorrectly describes the use of $\beta = 0.8$ and a range of B values as 'assumptions' which a POSITA would not make" as the specification recites those exact values. *Id.* (quoting '213 Patent at 26:39–64 ("The ratio of V_1/V_2 is above 10 dB for all $0.8<B<1.1$"),

23:54–5:42 (β=0.8)). Plaintiff contends that Defendant "gives no reason that a POSITA would not use these explicit values." *Id.*

With respect to Defendant's argument that Plaintiff used circular logic, Plaintiff contends that "the patents' discussion of the B range is with respect to the ***speech response dissimilarity*** that provides good performance" and that Plaintiff uses "the patents' defined B range to confirm that the ***noise response similarity*** must be within 10 dB." " *Id.* at 9 (citing '213 Patent at 26:29–64) (emphases in Plaintiff's brief). Plaintiff contends that "[t]hat is not circular logic; it is simply mathematics well within the grasp of a POSITA." *Id.*

With respect to Plaintiff's argument that a POSITA "would not have understood that subtracting noise responses that are nearly 10 dB apart results in denoising," Plaintiff contends that Defendant "ignores that the ranges given are the ***outer bounds*** of the claim. A POSITA would understand that the noise responses could be more similar--and the speech responses less similar--and result in better cancellation." *Id.* at 10 (emphasis in Plaintiff's brief).

Counter-arguments regarding "energy ratio"

With respect to Defendant's argument that the 10 dB number in the specification is related to the energy ratio and not the disputed terms, Plaintiff contends that Defendant's argument "ignores the claims, the specification, and common sense." *Id.* More specifically, Plaintiff contends that "the 10 dB ratio is ***explicitly*** tied to the dissimilarity of the ***speech responses***." *Id.* at 10–11 (citing '213 Patent at 26:54–64) (emphases in Plaintiff's brief). Plaintiff contends that "the specification defines the threshold energy ratio (R) differently[.]"

$$R = \frac{\|V_1(z)\|}{\|V_2(z)\|} = \sqrt{\frac{\left(-\tilde{\beta}(z)\alpha(z)O_2(z) + O_1(z)z^{-v}\right)^2}{\left(\alpha(z)O_2(z) - \tilde{\beta}(z)O_1(z)z^{-v}\right)^2}}$$

*Id.*at 11 (citing '213 Patent at 6:20–32). Plaintiff contends that:

> Notably, the R ratio uses a norm and a window size to determine the energy ratio. *Id.* Also, and critically, the R ratio is computed from a window of the entire V_1 and V_2 signals, and not just the speech or noise responses of each. The 10 dB ratio, in contrast, is the ratio of the speech responses only.

Id.

Plaintiff further contends that "there is no per se rule that the same ratio cannot be used for two limitations in a claim." *Id.* (quoting *Nystrom v. TREX Co.*, 424 F.3d 1136, 1143 (Fed. Cir. 2005) ("Different terms or phrases in separate claims may be construed to cover the same subject matter where the written description and prosecution history indicate that such a reading of the terms or phrases is proper.")).

Arguments regarding Plaintiff's prior constructions

Plaintiff contends that Defendant "refuses to engage with the undisputed mathematical certainty that the sign of a ratio in dB is solely a function of the order in which the two quantities are presented, and merely repeats its mathematically incorrect argument that the construction is different." *Id.*

The Court's Analysis:

After reviewing the parties' arguments and considering the applicable law, the Court agrees with Defendant that the terms are indefinite for the reasons that follow. ***First***, the Court concludes that the term is indefinite because there is clear and convincing evidence that the terms when "read in light of the patent's specification and prosecution history, fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 572 U.S. at 901. More specifically, this term contains two terms of degree—"approximately" and "[dis]similar"—but the Court does not believe that the patent provides "objective boundaries" for a POSITA to determine the claim scope. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir.

2014). For example, while both patents uses the terms "approximately similar" and "approximately dissimilar," neither patent provides guidance as to what those terms mean, let alone the difference between "similar" and "approximately similar" (or "dissimilar" and "approximately dissimilar"). '213 Patent at 30:41–43 ("approximately similar"), 31:64–67 (same), 33:2–5 (same), 34:50–52 (same); '213 Patent at 30:44–46 ("approximately dissimilar"), 31:64–67 (same), 33:2–5 (same); 34:53–55 (same); '611 Patent at 30:30–32 ("approximately similar"), 31:52–55 (same), 32:59–62 (same), 34:38–40 (same); '611 Patent at 30:33–35 ("approximately dissimilar"), 31:52–55 (same), 32:59–62 (same), 34:41–43 (same). Rather, all of these passages mirror the claim language. *Compare* '213 Patent at 30:41–43 ("first virtual microphone and the second virtual microphone of an embodiment have approximately similar responses to noise") and 30:44–46 ("first virtual microphone and the second virtual microphone of an embodiment have approximately dissimilar responses to speech.") *with* '213 Patent, Claim 2 ("the first virtual microphone and the second virtual microphone have approximately similar responses to noise and approximately, dissimilar responses to speech."). There is no further guidance regarding the scope of these terms in the specification.

Further complicating the patents' lack of guidance is the fact that the patents uses similar terms. For example, the specifications use the terms "very similar" and "very dissimilar" to describes the responses to noise and speech, respectively. *See, e.g.*, '213 Patent at Abstract ("very similar noise responses and very dissimilar speech responses"), 3:59–62 ("use microphones to generate virtual directional microphones which have very similar noise responses and very dissimilar speech responses"), 4:23–25 ("V_1 is configured so that it does respond to the user's speech but has a very similar noise magnitude response to V_2, as described in detail herein"), 5:35–37 ("V_1 and V_2 have very similar noise response magnitudes and very dissimilar speech response

magnitudes"), 8:61–62 ("the response of both V_1 and V_2 are very similar, and the ratio R is very near unity for the entire sample."), 17:48–50 ("The two virtual microphones are configured to have very similar noise responses and very dissimilar speech responses."), 24:63–65 ("The linear response of virtual microphone V_1 to noise is devoid of or includes no null and the response is very similar to V_2 shown in FIG. 26."), 29:40–42 ("The above formulation works very well because the noise (far-field) responses of V_1 and V_2 are very similar while the speech (near-field) responses are very different."); *see also* '611 Patent at Abstract, 3:59–62, 4:22–25, 5:35–37, 8:59–60, 17:43–45, 24:62–64, 29:28–30. As another example, the specifications also use the terms "substantially similar" and "substantially dissimilar." *See, e.g.*, '213 Patent at 22:35–38 ("The first virtual microphone and the second virtual microphone are distinct virtual directional microphones with substantially similar responses to noise and substantially dissimilar responses to speech."), 22:59–61 ("The construction of VMs for the adaptive noise suppression system of an embodiment includes substantially similar noise response in V_1 and V_2."); *see also* '611 Patent at 22:37–40, 22:61–63. As yet another example, the specifications also use the term "greater dissimilarity" to describe noise responses of V_1 and V_2. '213 Patent at 25:36–39, '611 Patent at 25:34–37.

Because different words are presumed to have different meanings, the patents' use of "approximately" along with their use of terms that likely have a similar meaning, *i.e.*, "very," and "substantially," make it more difficult for a POSITA to determine with at least "reasonable certainty" what the scope of "approximately" means. *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) ("In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings."). Similarly, the patents' use of "very" and "substantially" to modify the scope of

"similar" and "dissimilar" makes it more difficult for a POSITA to determine what term, if any, the disclosures in the specifications are directed towards.

Second, with respect to Plaintiff's argument that the Court should construe the term in view of their function, the Court does not find that the function identified in the patent would help a POSITA would understand the scope of the claim term with reasonable certainty. To summarize Plaintiff's argument: Plaintiff argues that the patent discloses that the "minimal level of functionality" is "good performance," which occurs when there is "sufficient denoising and minimal devoicing." *See, e.g.*, Response at 9 (citing '213 Patent at 18:36–20:11, 25:65-67). Plaintiff further argues that the ratio of V_1 and V_2 responses for speech "must be 'above approximately 10 dB—enough for good performance." *Id.* at 10 (citing '213 Patent at 26:58–60). In short, Plaintiff argues that "for the limitations to accomplish their function of providing a clear speech signal for voice detection and from which noise can be subtracted, the ratio of the V_1 and V_2 speech responses must be at least 10dB." *Id.*

As a preliminary matter, "good performance" is another term of degree, which, in turn, may tend not to provide guidance for a double term of degree like the terms at-issue here.

The specifications describe that "'good performance' of the system indicates that there is sufficient denoising and minimal devoicing" and that a V_1/V_2 ratio that "is above approximately 10 dB" is "enough for good performance." But neither of these disclosures provides a POSITA guidance as to the scope of "approximately similar responses to noise" and/or "approximately dissimilar responses to speech" for at least four reasons. The first reason is that there is no disclosure—nor does Plaintiff appear to identify any disclosure—that indicates that there is a relationship between "approximately similar responses to noise" and/or "approximately dissimilar responses to speech" and "good performance" and/or "sufficient denoising and minimal

devoicing." Rather, "good performance" and/or "sufficient denoising and minimal devoicing" could be the result of (1) "substantially similar responses to noise" and "substantially dissimilar responses to speech" or (2) "very similar responses to noise" and "very dissimilar responses to speech," both of which are disclosed in the specifications. *See, e.g.*, '213 Patent at Abstract ("very similar" and "very dissimilar"); '611 Patent at Abstract (same); '213 Patent at 22:35–38 ("substantially similar" and "substantially dissimilar"); '611 Patent at 22:37–40 (same). Likewise, "good performance" and/or "sufficient denoising and minimal devoicing" may be the result of "similar responses to noise" and "dissimilar responses to speech," such that "approximately similar responses to noise" and "approximately dissimilar responses to speech" fail to achieve "good performance" and/or "sufficient denoising and minimal devoicing." In short, there is no disclosure that indicates that there needs to be "approximately similar responses to noise" in order to have "sufficient denoising" and "approximately dissimilar responses to speech" in order to have "minimal devoicing."

Even if there was such a disclosure, the second reason is that because "sufficient [denoising]" and "minimal [devoicing]" are two other terms of degree, the amount of guidance these terms provides for a claim term that uses two terms of degree is likely, at best, limited.

The third reason is that when the patents describe system performance together with the responses, they do not describe that the responses are "approximately similar" and "approximately dissimilar." By contrast, the patents describe that the claimed invention "performs well" even when the speech responses are "very different" and the noise response are "much less similar," *i.e.*, not that speech responses are "approximately dissimilar" and that the noise response is "approximately dissimilar." *See, e.g.*, '213 Patent at 29:58–64. Therefore, based on at least this

disclosure, a POSITA would not understand that "approximately similar responses to noise" and "approximately dissimilar responses to speech" is associated with "good [system] performance."

The fourth reason is that the patents do not teach that the 10 dB ratio means that there are "approximately similar responses to noise" and "approximately dissimilar responses to speech." Relatedly, Plaintiff has not shown that the 10 dB ratio is the dividing line between "approximately dissimilar" and "approximately similar." Rather, the scopes of two double terms of degree may overlap or be separated by a gap.

Third, at most, the patents provide objective boundaries for only one of the two terms of degree, but not both. As such, without guidance for both terms of degree—or both terms of degree as a combination—the claim terms are indefinite.

Fourth, the Court previously found that these two terms were indefinite in a prior case. *Jawbone Innovations, LLC v. Google LLC f/k/a Google Inc.*, No. 6;21-cv-00986-ADA, ECF No. 88, at 3 (W.D. Tex. Oct. 14, 2022). Plaintiff has not provided sufficiently compelling reasons for the Court to deviate from its prior construction.

For these reasons, the Court concludes that Defendant has provided clear and convincing evidence that this term is indefinite.

B. Term #2A: "substantially similar [responses to noise]" / "[is] substantially similar [to the first linear response to noise]"
Term #2B: "substantially similar [across a plurality of frequencies for a speech source]"
Term #2C: "substantially dissimilar [responses to speech]" / "[is] substantially dissimilar [to the first linear response to speech]"

Term	Plaintiff's Proposed Construction	Defendant's Proposed Construction
#2A "substantially similar [responses to noise]" / "[is] substantially similar [to the first linear response to noise]" U.S. Patent No. 8,503,691, Claims 1, 23, 27, 29, 41; U.S. Patent No. 10,779,080, Claims 1, 7, 14; U.S. Patent No. 11,122,357, Claims 1, 15 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to noise whose ratio has an absolute value of less than 10 dB" / "deviates from the first linear response to speech such that the absolute value of their ratio is less than 10 dB"	Indefinite
#2B: "substantially similar [across a plurality of frequencies for a speech source]" U.S. Patent No. 8,503,691, Claims 1, 23, 27-29, 41 U.S. Patent No. 10,779,080, Claim 7 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "within a range of 10 dB [across a plurality of frequencies for a speech source]"	Indefinite

#2C: "substantially dissimilar [responses to speech]" / "[is] substantially dissimilar [to the first linear response to speech]" U.S. Patent No. 8,503,691, Claims 1, 23, 27-29, 41; U.S. Patent No. 10,779,080, Claims 1, 7, 14; U.S. Patent No. 11,122,357, Claims 1, 15 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to speech whose ratio has an absolute value of 10 dB or more" / "deviates from the first linear response to speech such that the absolute value of their ratio is at least 10 dB"	Indefinite

The Parties' Positions:

Defendant contends that Plaintiff's shifting proposals confirms these terms are indefinite. Opening at 14. More specifically, Defendant contends that Plaintiff changed its proposed construction from (1) plain and ordinary meaning; no construction necessary to (2) plain and ordinary meaning or "the responses to noise between two microphones deviate by no more than 10 to 15 percent" to (3) plain and ordinary meaning; no construction necessary; alternatively, "responses to noise whose ratio has an absolute value of less than 10 dB." *Id.* Defendant contends that Plaintiff's "substantively shifting positions underscores that there is no objective standard to determine how the terms 'substantially similar' and 'substantially dissimilar' are met." *Id.* (citing cases).

Defendant contends that these terms are double terms of degree. *Id.* at 14–15. Defendant contends that apart from a single passage in the patents, the specifications do not describe or use these terms. *Id.* at 15. Defendant contends that this passage is simply a "conclusory reference [that] does nothing more than restate the indefinite claim language," and "does not supply any

objective standard that could be used to determine the scope of the claimed invention, and therefore claims including these terms are indefinite." *Id.*

Defendant contends that the specification generally describes the virtual microphones' responses to noise and speech either as "very similar" or "very dissimilar," but this "only compounds the indefiniteness problem, because the intrinsic evidence provides no guidance for differentiating the 'very similar/dissimilar' examples in the specification from the 'substantially similar/dissimilar' language used in the claims." *Id.*

Defendant contends that "[t]he patents are completely silent as to any standard for measuring these terms of double degree, and never associate any objective boundary, including 10 dB, with 'substantially similar' or 'substantially dissimilar' responses." *Id.* at 17.

Defendant contends that "[v]arious dictionary definitions further confirm" that "the use of 'substantially' instead of 'approximately' is of no help." *Id.* at 17–18 (citing various dictionaries).

In its response, Plaintiff contends that Defendant "repeats, nearly verbatim, its arguments with respect to the 'approximately' terms[.]" Response at 18.

Plaintiff contends that although the '691, '080, and '357 Patents are not directly related to the '213 and '611 Patents, they share a similar specification. *Id.* at 19. Plaintiff contends that "the 'substantially' terms are used for the same denoising as the 'approximately' terms found in '213 and '611 Patents and could be applied without construction." *Id.*

"substantially dissimilar [responses to speech]"

Plaintiff contends that the '080 Patent "explains that good performance is achieved if the 'the ratio of [the speech response for] V_1/V_2 is above 10dB.'" *Id.* (citing '080 Patent at 3:12–16, 13:7–10, 13:18–20, 12:31-33). Plaintiff contends that, at was the case for the '213 Patent, "'good performance' is equated with adequate results, i.e., sufficient denoising and minimal devoicing."

Id. at 19 n.5 (citing '080 Patent at 12:31–33). Plaintiff contends that "the specification teaches, and a POSITA would recognize, that for the limitations to provide their function of providing speech signals from which a noise signal can be subtracted resulting in denoised speech, the ratio of the V_1 and V_2 responses must be at least 10 dB." *Id.* at 20.

"substantially similar [responses to noise]"

Plaintiff contends that the Federal Circuit has repeatedly found terms containing the word "substantially" to be not indefinite. *Id.* (citing cases).

Plaintiff contends that the specification teaches that "responses that are substantially dissimilar have a ratio with an absolute value of 10 dB or greater." *Id.* at 21 Plaintiff contends that a POSITA would understand that "responses that are substantially ***similar*** are those that are ***not*** substantially dissimilar, *i.e.*, those whose ratio is less than 10 dB." *Id.* (emphases in Plaintiff's brief). Plaintiff contends that to provide "good performance," the "B values can vary from 0.8 to 1.1, resulting in a ratio of the noise responses that is less than 10 dB." *Id.*

Plaintiff contends that a POSITA "would understand that for the limitations to function for their intended purposes, which is to provide a noise signal that can be subtracted from the speech signal resulting in denoised speech, 'substantially similar' responses are responses whose ratio has an absolute value of less than 10 dB." *Id.*

"substantially similar [across a plurality of frequencies]

Plaintiff contends that Defendant does not separately address this limitation. *Id.* Plaintiff contends that Figure 13 depicts such a response for an optimal system. *Id.* at 22. With respect to Figure 13, Plaintiff contends that the specification describes that the response "is flat for all frequencies within approximately +-30 degrees of the axis of the array" and that "[t]his flatness of

response for speech means that no shaping postfilter is needed to restore omnidirectional frequency response." *Id.* (citing '080 Patent at 11:43–49, 11:49–51).

Plaintiff contends that, for a non-optimal system, "the limitation's function is to assure a speech signal that is similar enough at each frequency that subtracting the noise from it results in denoised speech without devoicing and to avoid the need for shaping to restore an omnidirectional frequency response." *Id.* Plaintiff contends that "the substantially similar speech responses (between frequencies) are in contrast to the substantially dissimilar speech responses (between microphones)." *Id.* Plaintiff contends that "[g]iven the purpose, and the use of the same 'substantially similar' language, a POSITA would understand that the speech responses across the plurality of frequencies are 'substantially similar' when they fall within a range of 10 dB." *Id.*

In its reply, Defendant incorporates its arguments for the "approximately similar" and "approximately dissimilar" terms. Reply at 13.

Defendant contends that Plaintiff's "entire argument relies on the patents' 10 dB teaching for 'good performance.'" *Id.* at 14. As such, Defendant contends that a POSITA "would not understand which of the various levels of performance to apply to the term 'substantially similar' / 'substantially dissimilar' (*see, e.g.*, '080 patent, 6:31-34, 6:47-62, 10:15-17, 14:28-50, 16:15-31), nor would the POSITA read the patents to require 'good performance' for 'sufficient denoising and minimal devoicing[.]'" *Id.*

Defendant further contends that a POSITA would understand that the 10 dB teaching is directed towards Claims 1, 7, and 14 of the '080 Patent which recite an "adaptive noise removal application" that provides denoised signals and Claims 1 and 15 of the '357 Patent which recite an output signal having noise content that is attenuated with respect to speech content. *Id.* Defendant

contends that "the claims of the '691 patent do not discuss noise removal or voice activity detection." *Id.* (citing '691 Patent, *C*laims 1, 23, 27–29, 41)

"substantially similar [across a plurality of frequencies]

Defendant contends that Plaintiff's citation of the specification that describes that the response "is flat for all frequencies within approximately +-30 degrees of the axis of the array" only describes that the responses "for different frequencies are 'flat,' which means 0 dB, not 10 dB." *Id.* at 15. (quoting '080 Patent at 11:43–49).

In its sur-reply, Plaintiff contends that Defendant "repeats its deficient arguments from the 'approximately' terms, including its failure to grapple with the function and purpose of the relevant limitations." Sur-Reply at 13.

"substantially dissimilar / similar [responses to speech / noise]"

With respect to Defendant's argument that the 10 dB relates to noise removal, Plaintiff contends that argument is "nonsensical." *Id.* More specifically, Plaintiff contends that the specifications "clearly link the similarity and dissimilarity of the noise and speech responses to noise cancellation performance." *Id.* (citing '080 Patent at 13:7–20, 12:31–33). Plaintiff contends that "[e]ven if 'good performance' relates to the claimed noise removal or attenuation, the purpose of the 'substantially' limitations is to create that performance, and a POSITA would understand to apply the 10 dB teaching to those limitations." *Id.*

Plaintiff contends that "[w]hile the '691 Patent does not explicitly claim noise removal, the specification explains that the claimed microphone arrays are useful for noise removal" and that the dependents "add limitations wherein the virtual microphones are created by subtracting one signal from the other." *Id.* (citing'691 Patent, Claims 21, 22). Plaintiff contends that a POSITA

would understand that "creating the virtual microphones as claimed would result in noise reduction." *Id.* at 13–14.

"substantially similar [across a plurality of frequencies]

Plaintiff contends that Defendant does not dispute that "the limitation's function is to assure a speech signal that is similar enough at each frequency that subtracting the noise from it results in denoised speech without devoicing" and that "similarity within a range of 10 dB provides a level of similarity that avoids the need for postfilter shaping, while facilitating generating denoised speech without devoicing." *Id.* at 14.

The Court's Analysis:

After reviewing the parties' arguments and considering the applicable law, the Court agrees with Defendant that the terms are indefinite for the reasons that follow. ***First***, as was the case for the "approximately" terms, the Court does not believe that the patent provides "objective boundaries" for a POSITA to determine the claim scope. *Interval Licensing*, 766 F.3d at 1371. More specifically, as was the case for the "approximately" terms, while the patents use these terms, the patents simply the mirror the claim language. *Compare* '691 Patent at 4:13–16 ("The first virtual microphone and the second virtual microphone have substantially similar responses to noise and substantially dissimilar responses to speech.") *with* '691 Patent, Claim 1 ("the second linear response to noise being substantially similar to the first linear response to noise, and the second linear response to speech being substantially dissimilar to the first linear response to speech,"); *compare* '080 Patent at 7:63–66 ("The first virtual microphone and the second virtual microphone are distinct virtual directional microphones with substantially similar responses to noise and substantially dissimilar responses to speech.") *with* '080 Patent, Claim 1 ("wherein the first virtual

microphone and the second virtual microphone have substantially similar responses to noise and substantially dissimilar responses to speech"); *compare* '357 Patent at 3:63–67 ("The first virtual microphone and the second virtual microphone are distinct virtual directional microphones with substantially similar responses to noise and substantially dissimilar responses to speech.") *with* '357 Patent, Claim 1 ("wherein the first virtual microphone and the second virtual microphone are distinct virtual directional microphones with substantially similar responses to noise and substantially dissimilar responses to speech"). There is no further guidance regarding the scope of these terms in the specification.

Likewise, these patents also use other terms of degree such as "very" and "greater" to describe "similar" and "dissimilar." '691 Patent at Abstract ("very similar noise responses and very dissimilar speech responses"), '080 Patent at Abstract (same), '357 Patent at Abstract (same); '691 Patent at 12:66–13:2 ("denoising will not be as effective due to the greater dissimilarity in the noise responses of V_1 and V_2"), '080 Patent at 11:67–12:3 (same), '357 Patent at 13:19–22 (same).

Because different words are presumed to have different meanings, the patents' use of "substantially" along with their use of terms that likely have a similar meaning, *i.e.*, "very," and "greater," make it more difficult for a POSITA to determine with at least "reasonable certainty" what the scope of "substantially" means. *CAE Screenplates*, 224 F.3d at 1317 ("In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings."). Similarly, the patents' use of "very" and "approximately" to modify the scope of "similar" and "dissimilar" makes it more difficult for a POSITA to determine what term, if any, the disclosures in the specifications are directed towards.

Second, with respect to Plaintiff's argument that the Court should construe in view of their function, the Court does not find that the function identified in the patent ("good performance") would help a POSITA would understand the scope of the claim term with reasonable certainty as described above with respect to "approximately similar" and "approximately dissimilar." *See* III.A *supra*.

Relatedly, Plaintiff does not provide any evidence that the patents disclose that "substantially [dis]similar" is synonymous or coextensive with "approximately [dis]similar" such that the same disclosure regarding "good performance" and 10 dB provides guidance as to the scope of both sets of terms.

Third, as was the case for "approximately similar" and "approximately dissimilar," the Court concludes that at most, the patents provide objective boundaries for only one of the two terms of degree, but not both. As such, without guidance for both terms of degree—or both terms of degree as a combination—the claim terms are indefinite.

Fourth, the Court previously found that these two terms were indefinite in a prior case. *Jawbone*, No. 6;21-cv-00986-ADA, ECF No. 88, at 4. Plaintiff has not provided sufficiently compelling reasons for the Court to deviate from its prior construction.

"substantially similar [across a plurality of frequencies]"

Fifth, the Court concludes that a POSITA, reading Figure 13 and the corresponding text, would not understand with reasonable certainty the scope of the claim term. More specifically, Figure 13 and the corresponding text describes that the "speech sensitivity of V_1 is lower than a normal directional microphone but is flat for all frequencies within approximately +−30 degrees of the axis of the array, as shown in FIG. 13." '691 Patent at 12:45–48. But the passage corresponding to Figure 13 (12:30–60) does not describe that "flat" is synonymous or otherwise

coextensive with "similar." If anything, the "flatness of response for speech" implies that there is no difference in the responses for speech for all frequencies within approximately ±30 degrees of the axis of the array. As such, to the extent that a POSITA believes that this passage provides any guidance as to the meaning of "substantially similar [across a plurality of frequencies]," a POSITA might understand that it requires a 0 dB difference, and not 10 dB as Plaintiff asserts.

Even if "flat" is synonymous or otherwise coextensive with "similar" such that Figure 13 and the corresponding text provide sufficient guidance as to the meaning of "similar [across a plurality of frequencies]" with at least reasonable certainty, there is no indication that these passages provide any guidance that would help a POSITA understand the meaning of "***substantially*** similar [across a plurality of frequencies]." As such, because Figure 13 and the corresponding text do not provide any guidance both terms of degree—or both terms of degree as a combination—"substantially similar [across a plurality of frequencies]" is indefinite.

For these reasons, the Court concludes that Defendant has provided clear and convincing evidence that this term is indefinite.

IV. CONCLUSION

In conclusion, for the reasons described herein, the Court adopts the below constructions as its final constructions.

SIGNED this 24th day of November, 2024.

ALAN D ALBRIGHT
UNITED STATES DISTRICT JUDGE

Term	Plaintiff's Proposed Construction	Defendant's Proposed Construction	Court's Final Construction
#1A: "approximately similar [responses to noise]" U.S. Patent No. 8,321,213, Claims 2, 37; U.S. Patent No. 8,326,611, Claims 3, 30 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to noise whose ratio has an absolute value of less than 10 dB"	Indefinite	Indefinite
#1B: "approximately, dissimilar [responses to speech]" / "approximately dissimilar [responses to speech]" U.S. Patent No. 8,321,213, Claims 2, 38; U.S. Patent No. 8,326,611, Claims 4, 30 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to speech whose ratio has an absolute value of 10 dB or more"	Indefinite	Indefinite

Term	Plaintiff's Proposed Construction	Defendant's Proposed Construction	Court's Final Construction
#2A "substantially similar [responses to noise]" / "[is] substantially similar [to the first linear response to noise]" U.S. Patent No. 8,503,691, Claims 1, 23, 27, 29, 41; U.S. Patent No. 10,779,080, Claims 1, 7, 14; U.S. Patent No. 11,122,357, Claims 1, 15 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to noise whose ratio has an absolute value of less than 10 dB" / "deviates from the first linear response to speech such that the absolute value of their ratio is less than 10 dB"	Indefinite	Indefinite
#2B: "substantially similar [across a plurality of frequencies for a speech source]" U.S. Patent No. 8,503,691, Claims 1, 23, 27-29, 41 U.S. Patent No. 10,779,080, Claim 7 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "within a range of 10 dB [across a plurality of frequencies for a speech source]"	Indefinite	Indefinite

Term	Plaintiff's Proposed Construction	Defendant's Proposed Construction	Court's Final Construction
#2C: "substantially dissimilar [responses to speech]" / "[is] substantially dissimilar [to the first linear response to speech]" U.S. Patent No. 8,503,691, Claims 1, 23, 27-29, 41; U.S. Patent No. 10,779,080, Claims 1, 7, 14; U.S. Patent No. 11,122,357, Claims 1, 15 Proposed by Defendant	Plain and ordinary meaning; no construction necessary Alternatively, "responses to speech whose ratio has an absolute value of 10 dB or more" / "deviates from the first linear response to speech such that the absolute value of their ratio is at least 10 dB"	Indefinite	Indefinite